

**From:** 'Kyle Winn' via OpenXCloudMigration <OpenXCloudMigration@openx.com>

**Sent:** Friday, June 22, 2018 3:15 PM EDT

**To:** Ivan Gusev <ivan.gusev@openx.com>; Joel Meyer <joel@openx.com>; OpenXCloudMigration@openx.com <OpenXCloudMigration@openx.com>; Hima Pradhan <hima.pradhan@openx.com>

**CC:** Frank Palmieri <fpalmieri@google.com>; Sefa Sevtakin <sevtakin@google.com>; Kyle Winn <kylewinn@google.com>

**Subject:** OpenX Response to Proposal: Google Cloud

**Attachment(s):** "OpenX RFP Response.pdf"

Hima, Ivan, & Joel,

Please find an attached copy of our RFP response.

Let us know if you have any questions and when it makes sense to sync back up.

Kyle

--

---

Kyle Winn | Account Manager | 415-215-0955



# **Response to Proposal for Procurement of Cloud Services**



**Submitted on June 22, 2018  
by  
Google Cloud Platform (GCP)**

# TABLE OF CONTENTS

01	
<b>Executive Summary</b>	<b>4</b>
<b>Why Google Cloud for OpenX?</b>	<b>5</b>
2.1 Google Cloud's Global Infrastructure Value for OpenX:	5
2.2 OpenX Ad Delivery, Top Line Revenue Growth with EB running on GCP:	6
2.3 OpenX Ad Delivery, Top Line Revenue Growth with DBM running on GCP:	7
2.4 OpenX Ad Delivery, Free Network Egress From / To EB & DBM (\$2M Savings identified by OpenX Finance):	8
<a href="https://cloud.google.com/compute/pricing#network">https://cloud.google.com/compute/pricing#network</a>	8
<b>Evaluation Criteria</b>	<b>9</b>
3.1. Total Price and Performance	9
3.2. Future Pricing	9
3.3 Migration Support	10
3.4 Platform Completeness	10
<b>Supplemental Questions</b>	<b>11</b>
4.1 Professional Services	11
4.2 Support	13
4.3 SLAs	13
4.4 Kubernetes	13
4.5 Compute	13
4.6 Network	14
4.7 Load Balancing Service	15
4.8 Data Storage	16
4.9 Data Ingestion and Processing	17
4.10 Streaming Ingestion Pipeline	17
4.11 Big Data Tools	17
4.12 Early Access to New/Future Platform Offerings	18
<b>Exhibits</b>	<b>19</b>
5.1 Pricing and Ramp	19
5.2 Platinum Support & Technical Account Management	22
<b>Professional Services</b>	<b>24</b>
6.1 Background	24
6.2 Google Professional Services (PSO) Resources	24
6.3 Migration Strategy Overview	25
Phase One: Assess	25
Phase Two: Pilot	25
Phase Three: Move Data	25

Phase Four: Move Applications	25
Phase Five: Optimize	26
6.4 Timeline for key milestones	26
07	27
Appendix	27
08	28
Contact	28
09	29
Legal	29

# 01

## Executive Summary

OpenX operates the world's largest independent advertising exchange connecting thousands of top brands with consumers across the most trafficked websites and mobile apps globally. OpenX stands alone in the marketplace as the recognized leader in quality, scale, and performance, delivering value across every type of connected screen and format.

Google Cloud provides a private distributed backbone between all of our data centers, storage and network supported by enhanced data analytics and machine learning, allowing our customers to quickly enter new global markets and scale globally on demand.

As a Google Cloud partner, OpenX's exchange, ad inventory, and communication to partners will be talking over Google's backbone, not over the Internet which provides you with an opportunity to leverage Google Cloud's Global Infrastructure to:

- Capture Top Line Revenue by lowering the latency in communication to your partners and publishers (█████ ms gains), which will increase top line revenue by reducing the error rates associated to Exchange Bidding (EB) and DoubleClick Bid Manager (DBM). A 30 day sample of EB and DBM highlighted the direct correlation between lower latency with Google Cloud and top line revenue growth potential for OpenX (█████ annually / █████ over 5 years, referenced in Section 2.2 and 2.3 of this response).
- Scale Mobile & Video Inventory On Demand Anywhere on the Globe to serve more brands, websites, and premium mobile apps worldwide by utilizing and matching Google Cloud's Global Infrastructure Footprint (eliminating upfront and ongoing OpenX financial costs for Data Center expansion in APAC & EMEA).
- Provide Better Operational Economics for Mobile & Video Growth by migrating OpenX's current on-premise workloads to Google Cloud. OpenX will be able to cost effectively grow the business and avoid critical infrastructure expenses. OpenX can support the increased volume of publishers and application developers across the globe by passing along the financial burden of a global infrastructure to Google.

**Transitioning to Google Cloud will provide OpenX with an opportunity to capture significant top line revenue, scale mobile & video services on demand**, and create operational efficiencies to drive further innovation. With regard to the operational efficiencies that would be gained, **OpenX's current On Prem Costs are █████ annually and █████ over a 5 year schedule**. When you add in considerations for new Global Data Center expansion and additional headcount to support the growth of global inventory associated to mobile and video you have an unknown and significant operational burden.

# 02

## Why Google Cloud for OpenX?

### 2.1 Google Cloud's Global Infrastructure Value for OpenX:

- Capture Additional Top Line Revenue - We have identified an opportunity for OpenX to lower the latency in communication to your partners and publishers by leveraging Google Cloud, which will increase top line revenue by reducing the error rates associated to Exchange Bidding (EB) and DoubleClick Bid Manager (DBM):
  - OpenX Exchange connects with Exchange Bidding (EB), soliciting from OpenX Exchange with fairly tight requirements on latency. OpenX Exchange also solicits demand from DoubleClick Bid Manager (DBM).
  - OpenX Supply & Demand: EB is a source of supply for OpenX and DBM is a source of demand. Transitioning OpenX's infrastructure to run inside of Google Cloud will yield a top line revenue benefit to OpenX (█████ annually / █████ over 5 years, referenced in Section 2.2 and 2.3 in this response).
  - Round Trip Latency: We tested across different endpoints (US, Asia, & Europe) and the round trip latency will take less than 1ms. By moving your OpenX Ad Ecosystem to Google Cloud and by partnering up with us we can design a solution where your instances can achieve sub-ms latency when communicating with EB or DBM. Because Google Cloud customers run on a private distributed backbone we see a █████ latency advantage over other cloud providers.
- Scale Mobile & Video Inventory On Demand Anywhere on the Globe - OpenX will be able to serve more brands, websites, and premium mobile apps worldwide by utilizing and matching Google Cloud's Global Infrastructure Footprint (eliminating upfront and ongoing OpenX financial costs for Data Center expansion in APAC & EMEA).

- Utilize Google's Single Global IP (anycast) for direct access to a fiber network backbone with globally distributed edge points of presence (POPs) which will reduce latency for establishing connections with backend Ad Delivery and Data Processing services for your ad exchange.
- Scale mobile inventory with Google Cloud Data Centers in APAC & EMEA to manage spiky Real Time Bidding (RTB) impression traffic, which will allow your mobile revenue to continue to grow globally by connecting more brands with mobile apps across the world.
- Accelerate the launch and revenue growth of your Opt-In Mobile Video Exchange by hosting your video inventory natively in Google Cloud Data Centers across the globe to leverage one hyper network and enable you to enter new, emerging global sectors.
- Provide Better Operational Economics for Mobile & Video Growth by migrating on-premise workloads to Google Cloud. OpenX will be able to cost effectively grow the business and avoid infrastructure / additional full time employee financial expenses. OpenX can support the increased volume of publishers and application developers across the globe by passing along the financial burden of managing a global infrastructure to Google Cloud.
  - Utilize Google Cloud's Global Load Balancing Capabilities: eliminate the need for OpenX to spend [REDACTED] to purchase hardware, design software, and build out an on-prem global load balancing solution to serve worldwide Ad Delivery Traffic.
  - Fully Managed Container Orchestration for Ad Delivery: run containerized workloads on Google Cloud's fully managed, production-ready Kubernetes Engine (GKE). Take advantage of advanced features such as horizontal node-level scalability, auto upgrades, auto repairs, master authorized networks, native VPC support, IP aliases and more - instead of hiring 3-5 full time OpenX employees to manage a worldwide Kubernetes environment for Ad Delivery.
  - Fully Managed Databases for Ad Delivery & Data Processing: leverage multiple fully scalable Google Cloud Database solutions (Cloud Datastore and BigTable) designed to handle massive workloads at consistent low latency and high throughput for both Ad Delivery and Data Processing workloads. Pay as you grow instead of investing in additional hardware, headcount, and Data Center growth.
  - Data Processing & Analytics to Improve OpenX Win Rates: use fast, easy-to-use, fully-managed Google Cloud Solutions for running Hadoop clusters and Data Analytics in a simpler, more cost-efficient way. Being able ingest, process, store, and analyze large datasets globally at scale will give OpenX a competitive advantage, gaining insight from your data through Google Cloud which you can apply to your algorithms to improve your win rates.
  - Free Network Egress From / To EB & DBM ([REDACTED] Savings identified by OpenX Finance):  
<https://cloud.google.com/compute/pricing#network>







# 03

## Evaluation Criteria

### 3.1. Total Price and Performance

Google Cloud is offering several incentives with regard to price and performance, which are outlined below and detailed in Section 5 of this response. These incentives are designed to assist OpenX with overall value, migration to Google Cloud, initial support and ongoing maintenance support.

These incentives include the following:

1. An Enterprise Discount Program (EDP) of [REDACTED] which applies to all available Google Cloud SKU's, currently in production and floats against the most current retail price.
2. A [REDACTED] discount targeted to Google DataProc services fixed at the contract outset price.
3. A price of [REDACTED] cents per GB on premium networking egress for all in-region traffic (North America to North America, APAC to APAC, Europe to Europe)
4. Egress to other Google Products is free.
5. [REDACTED] of Google Cloud Credits, intended to help offset migration and depreciation (to be applied to Google Cloud Credits or Professional Services Credits).
6. Two Years of Platinum Support at no cost to OpenX.
7. Two Years of 5 day per week Technical Account Management Support at no cost to OpenX.

### 3.2. Future Pricing

As part of this proposal Google Cloud is offering OpenX an Enterprise Discount Program (EDP) for the 5 year term of the Google Cloud / OpenX contract. Google will produce a pricing addendum in which EDP will be applied to all existing Google Cloud Services today and can be added, through notification to Google, to future services that Google Cloud moves into production.

### 3.3 Migration Support

- Credits to offset the double-cost inherent in a migration

As outlined in section 3.1, Google Cloud is offering [REDACTED] in Google Cloud credits to help offset the double-cost inherent in a migration and the depreciation of capital assets.

- Flexibility in finance term scheduling

At no additional cost to OpenX, Google Cloud is proposing a ramped commitment schedule, that is paid as it's used and is aligned to the OpenX phase roll out. Google Cloud is committed to working closely with OpenX to ensure that the actual ramp of services in Google Cloud is closely aligned with annual commitment levels.

- Programs to assist with migration planning and execution

Google Cloud offers multiple packaged quick start services that leverage Google Cloud's methodology to Assess, Plan, Deploy and Optimize our services with our customers. Google's Packaged Services are outlined in Section 6: Professional Services.

- Training for members of the OpenX technical staff

Google Cloud offers numerous options for technical training, as outlined in Section 4.1 of this response. Google Cloud will help to align appropriate training programs and certifications that align to OpenX's planned roll out and timing.

- Professional Services to aid in the execution of the migration (beyond support contracts)

Google Cloud offers services that range from custom solutions to program packages, Google Cloud will deliver a unique strategy to match your business needs. Google also has a broad network of Google Cloud partners that we will work closely with on migration strategy and execution.

- Any other resources that you have found to be useful in making a customer successful.

Google Cloud has included Platinum Support and a Technical Account Manager, 5 days a week for the first two years of this contract. We have found the combining Professional Services from Google and its partners with a solid support foundation drives faster ramp to the cloud, more successful implementations and higher level of customer satisfaction. Google Cloud is committed to OpenX's success in this endeavor and is packaging in these services.

### 3.4 Platform Completeness

We address the supplemental questions in Section IV and we address the schedule services for services in Section 5.

# 04

## Supplemental Questions

### 4.1 Professional Services

As OpenX has outlined, Google Cloud firmly believes that a focused and method driven approach to cloud migration is a must for success, As such Google Cloud brings a number of different resources to bare as we work with our customer to help them ramp their migration.

- Google Cloud Professional Services Organization (PSO): When you choose a Google Cloud consultant, you'll be working hand in hand with the experts who helped build the Google Cloud infrastructure. We'll educate your team on best practices and guiding principles for a successful implementation. Our solutions are customized for various business needs — with consultants who deliver a broad range of technical expertise including infrastructure, machine learning, data and analytics, application development, and security. A full description of services is available at <https://cloud.google.com/consulting/> and in Section 6 of this response.
- Google Cloud Partner Program: The Google Cloud partner network is your go-to resource for support in the cloud. We've already vetted them for you, so you can choose from thousands of trusted, experienced partners covering a wide range of specialties.
- Google Cloud Training: Google Cloud offers training classes ranging in skill level from foundations to advanced in a variety of learning modalities including on-demand, online, and classroom. These courses include technical skills and best practices helping customers and partners get up to speed quickly and continue the learning journey through extensive use of hands-on-labs in class and self-paced (qwiklabs). Certifications help validate and prove skill and expertise in Google Cloud technologies.
  - Recommended Learning Plan: In order to start cloud-based journey more quickly, Google Cloud will create and recommend a learning plan for OpenX. These training classes are delivered by multiple different channels, ranging from instructor-lead class, online course to online lab exercise. OpenX can select the right training

format that fits to your need. The learning plan contains the various types of training : Instructor led training, Direct from Authorized Training Partner, [Direct from Google Training team](#), Qwiklabs quests, On-demand training:Direct from Coursera, Certification exams:(Register via [the Certification page](#) on our Google Cloud Training site)

- Application Review, Consulting and Architectural Support: Google Cloud offers the *Customer Reliability Engineering Program (CRE Program)* (valued at [REDACTED] per year): CRE is a team of Google site reliability engineers (SREs) that helps customers achieve Google-level reliability on the Google Cloud Platform (GCP) by partnering with them to implement SRE operational best practices. Google Cloud's CRE Program is valued at [REDACTED] per year, but with strategic customers CRE engagement with a customer carries no additional financial cost.
  - Customer Benefit: OpenX will have the opportunity to access a range of CRE engagements from the areas above that draw from Google's experience and apply our knowledge to your specific application and situation - giving you specific recommendations and advice so you don't have to "learn through mistakes" as you scale and develop your systems.
  - In addition to the tailored advice, OpenX will have the opportunity to develop shared monitoring with CRE that reflects your key business needs as a series of metrics (SLIs) and associated objectives for their performance (SLOs). CRE will work with you to ensure your application and operations practices are engineered to consistently achieve these SLOs and will act as an advocate for your application with Google teams and products should their performance put your SLOs at risk.
  - The Offering: CREs focus on CREs focus on sharing Google SRE best practices, strategic consulting and advising our customers engineers on matters of reliability. CRE offers services in the following areas:
    - Education and training: Provide advice to customers coming from a non-SRE background on how to apply SRE philosophy to their organization. Deliver training on topics such as SRE team development, oncall health, monitoring philosophy and core principles such as SLI/SLO/SLA.
    - Application Review and Consulting: Advise customers on reliable architecture strategies and best practices. Assist in identification and analysis of key risks in existing systems.
    - Shared Monitoring and Shared Fate: Provide consulting advice to customers, which covers implementation of SLO based, symptom oriented monitoring and shared operational activities including running DiRT-like reliability drills, tests and joint postmortems.
    - Critical event consulting: Assistance with planning for major launches or high traffic, high growth rate periods of time, a common cause of reliability issues and outages.
    - CRE's engagement with a customer carries no additional financial cost, but is predicated on the customer's sustained willingness to

adopt SRE practices into their organisation and allocation of sufficient engineering time for participation in the CRE activities and follow-up activities.

## 4.2 Support

- Levels of support available - At the outset of this contract Google Cloud is offering a comprehensive plan for support and maintenance, This approach is intended to help drive success as OpenX ramps. Google Cloud is offering to package in Platinum support as well as 5 days per week of Technical Account Management coverage (see below), for the first two years at no cost to OpenX. Details on Platinum support and Technical Account Management are located here - <https://cloud.google.com/consulting/> and <https://cloud.google.com/tam/>
- Rack price for each level - See Section 5.2
- Recommended support plan for each level - It is recommended that OpenX maintain Platinum Support for the duration of the contract, and into the future, for the most expedited support experience.

## 4.3 SLAs

- Link to the Public SLA: <https://cloud.google.com/terms/sla/>

## 4.4 Kubernetes

- We don't charge a unit cost for our managed kubernetes offering (GKE). No additional charges outside of GCE node prices for Kubernetes managed offerings.

## 4.5 Compute

### 4.5.1 On-Demand VMs

Region	Per Core Hour - On-Demand	Per GB RAM Hour - On Demand
ap-southeast-1		
australia-southeast1		
europa-west4		
us-central1		
us-east-1		
us-east4		
us-west2		

- Note that OpenX will also be able to take advantage of up to [REDACTED] discount off on-demand prices with GCP's automatic Sustained Use Discount. All prices listed are list prices and do not include any additional discounts OpenX may receive for spend commitments with GCP.

- **4.5.2 Long lived VMs**

Region	Core Pricing - 3 yr Committed	Ram Pricing - 3 Yr Committed
ap-southeast-1		
australia-southeast1		
europa-west4		
us-central1		
us-east-1		
us-east4		
us-west2		

- **Cost impact on the following scenarios:**

- OpenX ahead of projected VM commitments
  - OpenX will be able to take advantage of on-demand sustained use discounts of up to [REDACTED] in the event that more VMs are used than commitments purchased.
- OpenX behind projected VM commitments
  - VM commitments are paid on a monthly basis and there is no need to pay upfront.
- OpenX unable to use or des not need the projected amount of committed VMs
- The unit price for long-lived VMs in excess of our projected commitments.
  - The unit price for long-lived VMs in excess of projected commitments can be run on-demand (or new commitments can be purchased). If OpenX chooses to run these on-demand they will be able to take advantage of up to [REDACTED] discount from Sustained Use Discounts as well as any additional discounts offered as part of OpenX's spend commitments on Google Cloud Platform. Refer to Section 5 for commitment options and associated discounts.

- **Pricing (or discount level) for each region and for instance type requested**

- [REDACTED] Discount across all instance types

- **4.53. Short lived VMs**

- All unsold capacity is available as preemptible VMs
  - Currently GCP has customers that run clusters of [REDACTED] cores on preemptible machines
  - Preemption rates historically average [REDACTED]
  - Preemptible VMs are available in all regions and zones
  - GCP does not currently offer discounts or availability guarantees for Preemptible VMs.
  - Cost for resources detailed in Section 5

## 4.6 Network

### 4.6.1 Egress to the Internet

List Prices (Discounted pricing is listed in Section 5):

Src-dest geolocation of traffic	0-10 TB	10-150 TB	150-500 TB
NA-NA, EU-EU			
Asia-Asia			
Oceania-Oceania			
SA-SA			
Intercontinental (excludes to/from Oceania and China)			
Intercontinental to/from Oceania			
Any to China			

### 4.6.2 Cross-region data transfer

- See above table for cross-region Datacenter pricing (Discounted pricing is listed in Section 5)

### 4.6.3 Connectivity to OpenX Data Centers

Resource	Price
Interconnect	a month per 10 Gb circuit
VLAN attachment	a month per attachment

Region	Price
Asia (asia-east1, asia-northeast1, asia-south1, asia-southeast1)	
Europe (europe-west1, europe-west2, europe-west3, europe-west4)	
North America (northamerica-northeast1, us-central1, us-east1, us-east4, us-west1)	
South America (southamerica-east1)	
Australia (australia-southeast1)	

## 4.7 Load Balancing Service

### Load Balancing Charges:

Region	Load Balancer Data (Per GB)	First 5 Rules (5 Included -	Each Additional Rule (Per Rule -
--------	--------------------------------	--------------------------------	-------------------------------------

ap-southeast-1  
australia-southeast1  
europa-west4  
us-central1  
us-east-1  
us-east4  
us-west2


## 4.8 Data Storage

### • 4.81. Object Storage

- GCP offers 4 different storage offerings, managed by a single API, which allow OpenX to manage the entire lifecycle of their data as well as managing availability and location.
  - Multi-Regional Storage
  - Regional Storage
  - Nearline Storage
  - Coldline Storage
- There are no storage commitments necessary, storage can be purchased on-demand.
- List Pricing for regional storage (Discounts Detailed in Section 5):

Region	Regional Storage (Per GB-month)
ap-southeast-1	
australia-southeast1	
europa-west4	
us-central1	
us-east-1	
us-east4	
us-west2	

### • 4.8.2 Key-Value Store

- Pricing for use cases
  - See Section 5
- Unit pricing (Discounts Detailed in Section 5):

Region	Bigtable Nodes (Per Node Hour)	Bigtable Storage (Per GB-Month)
ap-southeast-1		
australia-southeast1		

europa-west4  
us-central1  
us-east-1  
us-east4  
us-west2

## 4.9 Data Ingestion and Processing

- Dataproce List Pricing:

Region	Dataproce Premium (Per vCPU Hour)
ap-southeast-1	
australia-southeast1	
europa-west4	
us-central1	
us-east-1	
us-east4	
us-west2	

## 4.10 Streaming Ingestion Pipeline

- Pub/Sub Pricing:
  - There is currently no regional pricing for pub/sub. It is a global service that is charged the same across regions.

Monthly data volume	Price Per GiB
First 10GiB	
Next 50TiB	
Next 100TiB	
Beyond 150TiB	

## 4.11 Big Data Tools

- BigQuery Pricing:

Region	Active Storage (Per GB-Month)	Long Term Storage (Per GB-Month)	Flat-rate (Per Slot)	On-Demand (Per TB of Analysis)	Streaming (Per GB Processed)
--------	----------------------------------	-------------------------------------	----------------------	-----------------------------------	---------------------------------

ap-southeast-1  
australia-southeast1  
europa-west4  
us-central1  
us-east-1  
us-east4  
us-west2

#### 4.12 Early Access to New/Future Platform Offerings

- We offer an Early Adopter Program where OpenX can try out different products and have early access to platform offerings that are still in development. This will give Open the ability to test out Google Cloud products for Ad Delivery and Data Processing before they are released to the general public to adopt new technology faster.

# 05

## Exhibits

### 5.1 Pricing and Ramp

Assumptions:

- [REDACTED] hours per month
- [REDACTED] price reductions Year over Year
- [REDACTED] YoY Growth
- Option 2 is a [REDACTED] decrease in projected spend, Option 3 is a [REDACTED] increase in projected spend
- Commitments are net of discounts and GCP Service Credits - We have allocated an estimated [REDACTED] of service credits to the first year in calculating the commitment values.

Projected Ramp (\$M):

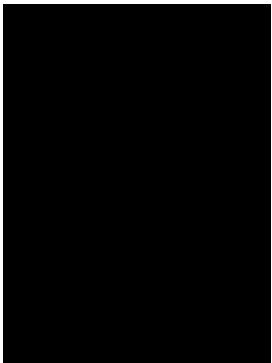
Credit Package

2 Year of Platinum  
Support

2 Slices of TAM (2  
Years)

Total

GCP Migration  
Credits



Year	
Phase	
1	
2	
3	
4	
5	

		Option 1	Option 2	Option 3
Minimum Spending Commitment Across All GCP				
GCE	On demand VM discounts			
	1-year Committed Use Discount (CUD) VMs			
	3-year Committed Use Discount (CUD)			

	VMs	Year Committed Use Discount of [REDACTED]	Year Committed Use Discount of [REDACTED]	Year Committed Use Discount of [REDACTED]
	Other (e.g. Standard PD, PD SSD, Local SSD, Load balancing)	[REDACTED]		
GCE	In Region Networking Egress NA -> NA EU -> EU APAC -> APAC			
	Cloud Dataproc			
	Managed Services			
	Platinum Support	Years 1 & 2 Covered by Google [REDACTED] off Platinum Support Years 3-5 (valid for both the existing model and the new role-based model, when it launches)	Years 1 & 2 Covered by Google [REDACTED] off Platinum Support years 3-5 (valid for both the existing model and the new role-based model, when it launches)	Years 1 & 2 Covered by Google [REDACTED] off Platinum Support years 3-5 (valid for both the existing model and the new role-based model, when it launches)
	<u>PSO Discount</u> : Cloud Services (Technical Account Manager, Consulting, Training)	[REDACTED] off [REDACTED] in Professional Services (PSO) fees (Technical Account Management, Consulting, Training)	[REDACTED] off [REDACTED] in PSO fees (Technical Account Management, Consulting, Training)	[REDACTED] off [REDACTED] in PSO fees
	<u>Credits</u> : Migration support includes GCP migration credits and/or PSO funding and/or PSF funding (the split to be later confirmed)	[REDACTED] in Credits, the split of which will be determined by OpenX and Google between PSO, PSF, and GCP Service Credits	[REDACTED] in Credits, the split of which will be determined by OpenX and Google between PSO, PSF, and GCP Service Credits	[REDACTED] in Credits, the split of which will be determined by OpenX and Google between PSO, PSF, and GCP Service Credits

Managed Services Include:

Cloud BigQuery	Cloud functions	Cloud Storage	CloudBuild	Natural language processing
Cloud Bigtable	Cloud IoT	Cloud Video Intelligence API	CloudSQL	Speech recognition API

Cloud CDN

Cloud KMS

PageID# 110893

Cloud Build

DLP API

Stackdriver

Cloud Composer

Cloud Machine  
Learning

CloudSQL

Firebase

Vision API

Cloud Dataflow

Cloud Pub/Sub

Cloud Storage

GKE

Cloud DNS

Cloud Spanner

Cloud Video  
Intelligence APIGoogle App  
Engine

#### Terms and Conditions

- During the discount period, OpenX will receive discounts off then-current list prices for the services specified in the discount table above, except for in-region premium network. In-Region premium network fees are fixed to the rates in effect on the agreement effective date and the discounts are off of those rates.
- Discounts apply to all eligible SKUs for each applicable Service.
- Discounts do not apply to premium OSs and preemptible VMs.
- The above discounts are in addition to any applicable sustained use discounts and committed use discounts, as described [here](#).
- Google will implement all discounts no later than 5 business days after the agreement effective date.
- All other GCP services will be charged at list prices.
- OpenX will pay for GCP services each month based on the resources it consumed. No upfront payments are required.
- Minimum spending commitments:
  - “True-up fees” - If at the term of the commitment period OpenX’s spending on GCP falls short of the minimum spending commitment, OpenX will pay to Google the difference between its spending and its commitment.
  - If at the end of a commitment period OpenX exceeded its minimum spending commitment, the extra amount rolls into the next commitment period and counts toward achievement of that commitment.

## 5.2 Platinum Support & Technical Account Management

Platinum Support Referenced in Section 4.2

Features	Silver	Gold	Platinum
<b>Issue Resolution</b>			
Break/Fix Cases	Yes	Yes	Yes
Target Initial Response Time for Critical Issues	1 business hours	1 hour	15 minutes
24x7 Support for Critical Impact issues		Yes	Yes
24x7 Support for High Impact issues			Yes
<b>Support Access</b>			
<a href="#">Individuals with log-in access to Support Center</a>	1	1	Unlimited
Phone Support		Yes	Yes
<b>Advisory Services</b>			
Architecture Support	Best Practice	Use-Case Specific	Use-Case Specific
Consultative Cases		Yes	Yes
Access to Technical Account Management			Yes
<b>Pricing Details</b>			
Minimum Price	████/month flat fee	████/month	████/month
Usage-Based Price Your total support price when usage-based pricing exceeds the minimum price		█████ of product usage fees between █████ + █████ of product usage fees between █████ + █████ of product usage fees between █████ - + █████ of product usage fees of █████	█████ of product usage fees between █████ + █████ of product usage fees between █████ + █████ of product usage fees between █████ + █████ of product usage fees of █████ and over

# 06

## Professional Services

### 6.1 Background

OpenX and Google are looking to establish a long term collaboration to accelerate migration to GCP leveraging GKE, GCE, DataProc, Bigtable, and other GCP solutions. In this section we highlight our plan to leverage Google resources and expertise to architect, plan, and build the underlying infrastructure on GCP.

### 6.2 Google Professional Services (PSO) Resources

Will work closely with OpenX to ensure we bring the right resources and the right number of resources with each skill set to the project. Each team member will have extensive experience in their areas of expertise within Google Cloud, and Google can scale up or down resourcing depending on OpenX's needs. The specific numbers of resources will be defined as we scope more deeply into your workloads and your existing resource capabilities:

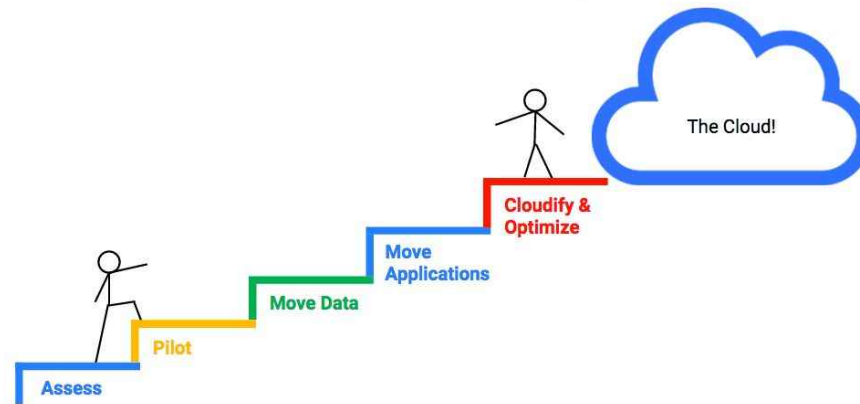
- Technical Account Manager (TAM) and team of supporting subject matter experts (by product), will guide OpenX along your migration to GCP and ensure the success once migrated.
  - Assess to OpenX's objectives and business requirements in order to develop a cloud strategy and implementation roadmap that is aligned with those goals
  - Identify appropriate milestones and KPIs to measure success and to further refine OpenX's cloud strategy
  - Provide a single view into all of OpenX's GCP projects, acting as a primary focal point for technical questions, ideas, and issues
  - Engage with OpenX executives in quarterly business reviews to assess progress against cloud strategy roadmap and plan for subsequent quarters
- PSO engineers with expertise in GCP Networking.
- PSO engineers with expertise in GCP Security.

- PSO engineers with specific product expertise (GKE, GCS, Dataproc, GCE, and others as needed).
- Cloud Consultants with experience running on-prem to GCP and Cloud to GCP experience.

A sample engagement model is displayed below. Please note that this is indicative of past successful migration operating models and is subject to change based on the OpenX's resourcing needs. This model can scale up or down as needed.

## 6.3 Migration Strategy Overview

### A Sequential Approach to Cloud Migration



#### Phase One: Assess

Before you move a single bit, take stock of your applications and how suitable they are for the cloud. Things to think about include (but are not limited to) hardware and performance requirements, users, licensing, compliance needs and application dependencies.

#### Phase Two: Pilot

This is the point where you take one or two applications, and try moving them. Learn about Cloud Platform and its design patterns, take the time to validate performance, consider your licensing options and establish how to perform a rollback.

#### Phase Three: Move Data

This is also the time to consider your various cloud storage options — regular Google Cloud Storage or Nearline? Local SSDs or persistent disks? Google Cloud SQL, Datastore or Bigtable? You should also think about how you're going to move all that data — via batch data transfers, offline disk imports, with database dumps, or streaming to persistent disks.

#### Phase Four: Move Applications

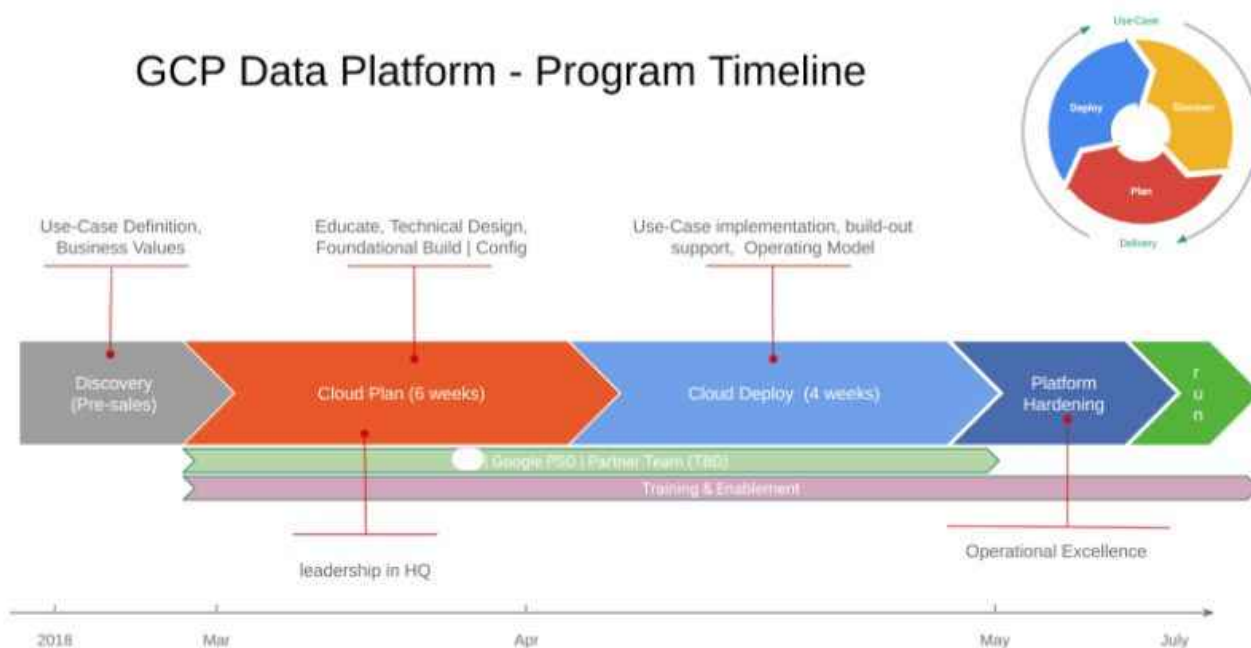
Now that your data is in the cloud, you're ready to move the actual apps. Here too, there are decisions to make. We recommend keeping things simple, and doing the minimum necessary to get the application up and running in the cloud, for example doing a straight lift-and-shift.

## Phase Five: Optimize

Once an application and its data have been migrated to GCP, you can start thinking about all the cool ways to make it better. For example, this might be a time to add redundancy in the form of availability zones, elasticity with autoscaling groups, or enhanced monitoring with Stackdriver.

*[In large enterprise clients, we might have to take a more parallel migration approach. We can start with migrating the cloud ready application first while we are still assessing some of the other applications. If the assessment phase in a large enterprise is likely to take longer, this approach is recommended to reduce time to value]*

## 6.4 Timeline for key milestones



# 07

## Appendix

### [Examples of Machine Learning at Google](#)

Automation and customer experience

### [Digital Native Seller Acquisition Acceleration Program \(Devices / Android\)](#)

Customer Acquisition, Moving Up-Market

### [Digital Native Platform of Platforms Acceleration Program](#)

New Digital Native High-Margin Services, Growth, Innovation

### [Integration Optimization Program](#)

Simplicity, Cohesion, Service Acceleration

### [Google Cloud for Digital Native: One-Pager](#)

Summary and highlights of Google's differentiation

### [GKE \(Google Container Engine\) Differentiation](#)

Details on the migration and operationalization

### [Commentary on Google Cloud Advanta](#)

A perspective on how Google can deliver both better technology and optimized costs

### [Earlier version of the proposal presentation](#)

Slides of proposal 0.01 Digital Native Financial Model: Model used to map Digital Native Infra to GCP

### [Customer Reference - MainAd](#)

Moved a high-performance, real-time ad bidding system to Google Cloud to serve 50,000 request per second

### [Customer Reference - Moloco](#)

Handles real-time ad bidding on 50 Billion daily page views. Supports bidding on a half-a-dozen ad exchanges, including Google AdX and Twitter Mopub with Google Cloud

# 08

## Contact

This document was prepared by [Kyle Winn](#), [Sefa Sevtekin](#), [Matt Brooks](#), and [Frank Palmieri](#)

For more information regarding this document, please reach out to [Kyle Winn](#) at [REDACTED] or [kylewinn@google.com](mailto:kylewinn@google.com)

# 09

## Legal

The information contained in this Google Cloud Partnership Proposal OpenX proposal document is confidential information of Google and is governed by that certain Google NDA, dated May 2, 2018, between Google LLC (f/k/a Google Inc.) and OpenX . For the avoidance of doubt, the information contained in this Google Cloud Partnership Proposal OpenX proposal document is not binding and remains subject to change at Google's sole discretion.